

São Francisco River, Brazil

SPECIAL EDITION

Water

A human right under threat

LATIN AMERICA/CARIBBEAN

Elsa Chanduví Jaña in Lima

Unequal access

Poverty destined to continue in region with unequal access to water.

“Poverty, power and inequality are at the heart” of the water crisis, says the United Nations Development Program’s Human Development Report 2006, and this is no exception in Latin America and the Caribbean, the world’s most unequal region.

The region holds 30 percent of the world’s water, but its distribution is far from equal. The Amazon basin in Peru, Colombia and Brazil is water-rich, but the area has a very low population density. Arid and semi-arid areas in Mexico or the Peruvian coast, the countries’ economic motors and also home to most of the population, are suffering from constant water shortages because of the scarcity of the resource and its rampant contamination.

It is the region’s poor — 40 percent of the close to 570 million Latin Americans and Caribbeans — who feel the effects of the water and sanitation crisis the most, suffering significant health repercussions.

Only 40 percent of the 5 poorest percent of the region’s population has sanitation service, while the 5 richest percent has almost complete coverage, according to the United Nations Environment Program.

Sometimes, residents in some of the region’s poorest neighborhoods pay between five to 10 times more for a liter of water than wealthier residents in the same

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“Water management is conflict management”

Peruvian agricultural engineer **Axel C. Dourojeanni**, founder of the Basin and Soil Conservation Management Program of Peru, served for more than two decades — until 2000 — as head of the Natural Resource and Energy Division of the Economic Commission for Latin America and the Caribbean (ECLAC).

He was an advisor in Mexico's river basin management program and helped write Brazilian water legislation, among many other missions. He is currently an environmental policy advisor in Chile and in the water resource management program of Ecuador.

An internationally recognized scientist, Dourojeanni has conducted numerous studies and published many books on river basin management in

Latin America and the Caribbean for ECLAC.

In the following e-mail interview with **Latinamerica Press** managing editor **Elsa Chanduví Jaña**, Dourojeanni discusses water management in the region and stresses the need to evaluate human activity in the river basins before developing management policies there.

The worldwide water crisis is an important issue right now. Are Latin America and the Caribbean at risk?

For a long time, the water crisis has referred to the lack of governing abilities society has to cohabitate with the water supply and nature in general. There is a tendency to blame the environment for what is a human problem.

For a while now, the majority of inhabitants in large cities have lost the notion of where the water in one's home is collected. Governments do not make water a priority in their agendas and only react when there's a crisis. There is almost a constant decline — except in Mexico and Brazil — in strengthening the institutions necessary for water management, pathetically coupled with the delays of reforming current water laws in almost every country in the region.

Latin America is the most unequal region in the world and the distribution of water is no exception. Is this unequal distribution of water a motive for conflict?

The “unequal” distribution of water is a production of human perception. Just as there are no natural disasters but rather natural phenomena that cause disasters, there is no “good” or “bad” distribution of water in its natural form. Society's desire has generated this idea of equal distribution of water.

One can't generalize this “unequal” distribution for the whole continent, but instead only by basin and water system.

>Continued from page 1

city. For example, in the Puerto Principe slum in Haiti, water consumption represents an average of 20 percent of household expenses.

Along with water shortages and contaminated water, the resource is still on the path to becoming privatized. The worldwide price of bottled water is more than oil by 300 percent, and its sale generates some US\$22 billion a year.

In Peru, for example, a liter of bottled water costs \$0.50, while the average rate for drinking water in urban areas is \$0.43 per cubic meter, meaning Peruvians pay the same for a bottle of water as they would for 1,000 liters of drinking water, a common scenario throughout the region.

Under threat

Urban growth has put even more stress on water demands, putting pressure on river basins and estuaries, as well as the hard-to-treat liquid waste, which ends up contaminating the basins themselves.

Less than 13 percent of the waste water in the region's cities is treated before being dumped in rivers, lakes or the ocean.

The bodies of water in Latin America are under serious threat: rivers are used as garbage dumps for human, industrial and agricultural waste; the construction of hydroelectric dams cause irre-

versible damage to river basins; the export-oriented agricultural industry uses vast quantities of water with inefficient techniques as well as a high volume of chemicals that contaminate subsoil waters.

“Latin America is increasingly losing the sustainability of its water. You only have to go out to the cities to see that the rivers are turning into dung-hills because of poor management,” warned Javier Bogantes Díaz, director of the Latin American Water Tribunal at the end of the Oct. 8-11 hearing in Jalisco, Mexico.

It was the fourth hearing of the tribunal — an alternative environmental court that issues non-binding rulings. The tribunal reviewed seven cases of threats to water resources in the region from Chile, Honduras, Mexico and Peru, based on contamination from farming chemicals, mining and real estate development.

“This is an ethical court and its rulings, written by legal, health and environmental experts, aiming to alert authorities about the urgent issue of water and the fact that we cannot continue enjoying nature if we continue to put water sustainability in danger for future generations,” Bogantes said to the *La Jornada* newspaper.

Sustainable management

What can be done to ensure quality water at fair prices to the entire population? What can be done to con-

serve water resources and protect them from degradation and even disappearing?

Some international bodies have promoted a new way of thinking about water. They say that we all need to be conscious about a growing lack of water because of contamination, climate change and squandering, and the fact that the vital resource is increasingly more expensive.

Social organizations that consider water a common good, community property say access to safe drinking water should be a basic human right. They promote the concept that water should be treated as a public resource managed for the common good, not for merchandise.

If governments consider water a fundamental human right they would not allow corporations to harvest this resource as if it were common merchandise. This forces the region's poorest citizens to pay far more for less water than the amount those with more resources enjoy at lower prices.

To conserve water resources is truly to end conditions of inequality; failing to do this is to feed conflicts that have increased in intensity.

Considering water is a basic human right is to demand that local, national and international public institutions and the many different consumers agree to promote the use of water in a rational, equal and sustainable way. □

What is unequal is the distribution of the population and its activities in a place where the water supply and natural drainage areas in occupied zones are rarely if at all analyzed before it moves there.

Land usage and territorial ordering plans are necessary. We don't do this and later on we complain about the consequences. Without basin authorities or laws to follow, let alone territorial ordering norms, land and water crises and conflicts will continue to increase.

Water is a common good and access to it is considered a human right, but the region's governments are far from guaranteeing sufficient access for all inhabitants. What must these governments do to ensure that this right is fulfilled?

The region's governments need financing to supply everyone with water. That money has to come from somewhere. It's true that the population and human lives in general should get priority, but it all requires funds. So water service to private homes should have a fee. On the other end, the tendency of the population is to not want to pay for water while it does pay a lot more for bottled beverages and other things. You have to make people conscious that access to water is a right but the service is not free and someone has to pay for it. The rest of it is demagoguery. The right will be ensured when funds are set aside to do so with a stable and honest organization to administer it under appropriate norms. That is not dependent on whether private participation is allowed but instead whether it is subject to strong state regulation.

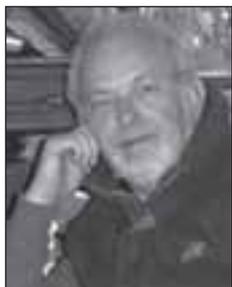
In whose hands should water management be so that its management is integrated, participatory and in solidarity?

Big words: solidarity, participatory, democratic, holistic, integrated and the rest. Turning these good wishes into reality is another thing. First it requires councils, committees, dialogues at a national, regional and river basin level where there is effective participation. Second, it's essential to create qualified technical teams to serve as counselors to discuss these issues with background knowledge. Decisions on water are based on what information is known and the authority to put the agreements in practice.

The state has the unavoidable role of water management because it has to be the one who says what nature's limit is and that regulates its use. Whether or not there is a water market or private participation, the state must always be strong in its organization for water man-

agement. Water management by definition is conflict management so there always must be people who present solutions in a neutral way. Most governments have turned their backs on water management a long time ago.

What has been Latin America and the Caribbean's recent experience in water management on a river basin level? What difficulties and advances have there been?



Alex C. Dourojeanni

"The tendency of the population is to not want to pay for water while it does pay a lot more for bottled beverages and other things. You have to make people conscious that access to water is a right but the service is not free and someone has to pay for it."

There has been a lot of river basin management. We have to clearly differentiate between "river basin management" and "water management by basin." The term "river basin management" has been applied rather extensively in Latin America and the Caribbean since the late 1960s. It comes from a free and literal translation of the term "watershed management" coined in the United States, which began in the 1930s.

The initial objective of these programs was to control the watershed of water captured by basins by quantity, quality and season. In Latin America this changed and became oriented toward complex land use issues. In the Latin American highlands, the focus on basin management is much broader than in other areas and includes control of landslides and erosion, agricultural, forest and other forms of soil management and im-

proved quality of life of its inhabitants.

The other term is water management by basin, above all the integrated management of water resources, which before only referred to the multiple use of water. I prefer to talk about water management by basin organizations, councils and committees instead of river basin management organizations. The latter refers to land management while the former refers to water management. This way you avoid role confusion with authorities elected to govern political-administrative spaces.

Everything adds up to create governing capabilities on lands with natural borders through governments created to govern areas with political-administrative borders.

It's important to highlight that what must be managed first are not the basins themselves or the water, but instead the human activities there.

All countries in the region have experience in river basin management. Mexico and Brazil are the only ones that include this in their water legislations. There are old river basin organizations in Argentina, Colombia and Ecuador as well. The fundamental thing is that there is continuity and that changes are adopted.

Water laws are important so that the management of water resources is institutionalized. What is the delay in legislation due to in the region?

The interference of economic and political positions, the creation of sectors in the legislation and the search to perpetuate bureaucracy and other situations have delayed the formation of water laws. Some countries are in the 50th version of water bills. Positions that seek the creation of water markets and privatization, others that seek nationalization of everything; an agrarian water law; the separation of the management of water quantity from quality; total decentralization; participation without authority — for more than 15 years modernized water laws have been impeded because of all of this.

There's an enormous fragmentation of [government] bodies — regionalization schemes that cut unique projects into pieces under various authorities. Politically it has become inconvenient to deal with a water law in congress, and even worse to debate how much to charge for water, for contaminating it, or how to finance a water management by basin organization or to legally apply a master integrated water management and territorial ordering plan. A policy of evasion is what is being hatched even though it appears that the current chaos and anarchy in water management are satisfying more than one person for now, at least until catastrophes or serious conflicts between water users and regions arise. □

Water as private property

Transnational companies tighten their grip on region's water resources.

The global water crisis will leave 2.7 billion people in 2025 facing difficulties obtaining water or even without this vital substance. This alarming truth has prompted the creation of a powerful social movement to defend this resource, and at the same time it has driven multinational companies to seek control of the region's existing reserves.

Social organizations define water as a public good that should be managed by national governments, but international finance organizations such as the International Monetary Fund (IMF), the World Bank and the Inter-American Development Bank (IADB) say that only private sector investment — to the tune of US\$50 billion a year — can guarantee universal water access in Latin America.

"Just like in the colonial era, the IMF, World Bank and the IADB give credits to the submissive governments and always in the payment plans the handing over of natural riches is included, so that the multinationals are left with the control of our resources and turn water into merchandise," said the Water Defense Commission of Uruguay. In 2004, the commission led the



Popular protests forced out a transnational water company from Bolivia.

successful campaign to stop the privatization of water there by plebiscite (*LP*, Aug. 25, 2004).

Disastrous private management

"International bodies succeeded in privatizing water in all its forms — family consumption, sewage systems, cleaning and export — by imposing such privatization as a condition in 30 percent of their agreements with each country in 2000 and 40 percent in 2001," states a study by the Spaniard nongovernmental organization Solidarity for Development and Peace, known by its Spanish initials SODEPAZ.

In the 1990s, at the height of neoliberal policies in the region, many Latin American and Caribbean countries passed their water sources, drinking water services and bottled water supply over to private multinational water

companies, such as French companies Vivendi and Suez and their many subsidiaries, as well as large food and beverage corporations such as Nestlé, Danone, Coca-Cola and PepsiCo.

In all cases, a common scheme was followed. It began with the self-destruction of the state-run water companies in order to justify low-cost privatizations. Later came an increase in water service fees, the breach of concession contract because of a lack of investment, ending with the reselling of the companies, indebted and obsolete,

back to the governments that granted the concessions.

After the Compañía de Aguas, a subsidiary of Vivendi, ran the Aqueducts and Sewer System Authority of Puerto Rico from 1995 to 2001, it left a legacy of operational and maintenance failures in the drinking water and sewage treatment plants. The company's successor, another French company, Ondeo, a Suez subsidiary, did no better, and in 2004 the government cancelled the contract and transferred the company to public hands.

After the companies' destruction that follows to their easy earnings from gen-

LATIN AMERICA

New ways to privatize water

Although transnational water companies have suffered setbacks in places like Puerto Rico, Bolivia (*LP*, Aug. 25, 2004; March 9, 2005), and Uruguay, they continue with plans to appropriate the region's hydrological resources — rivers, aquifers, wells, and aqueduct systems. Some new methods for water privatization include:

Privatization of municipal services in urban zones. In this modality, transnational corporations appropriate distribution networks and purifying facilities with the help of new legislation on water that permits participation of private contractors.

Privatization of territories and bioregions. Companies that trade and/or need bulk water for their activities seek the privatization of territories and entire bioregions to guarantee monopoly control over the resource.

Privatization through diverting existing sources. Abundant water is provided to industrial users and agribusinesses through canals that divert whole rivers from their natural courses, and through the construction of infrastructure megaprojects like waterways and dams, at the expense of millions of traditional users including indigenous

peoples and small farmers.

Privatization by contamination. When major corporate users pollute the resource through use and abuse (for example mining, oil drilling, paper pulp, electricity generation, and toxic agrochemical-intensive industrial monocultures) they make it impossible for less-privileged sectors to use it.

Privatization by bottling. Four transnationals (Coca Cola, Pepsico, Nestle, and Danone) control most of this prosperous business activity. These companies and their subsidiaries obtain water at extremely low cost and often in addition receive state subsidies to establish bottling plants. They then sell it for over a thousand times what it cost them to get it.

Monopoly of technologies. Big industries not only squander and pollute water—a resource that belongs to all—but also control the technologies for its extraction and purification.

Source: Carmelo Ruiz Marrero, "Water Privatization in Latin America", Americas Program at the Center for International Policy, 2005.

erous concessions, abusive rates and received credits — and eventually absorbed by the state — there is environmental destruction to content with.

In Argentina, Obras Sanitarias de la Nación, a sewage company, was handed back to the state last year after being run by Suez for 13 years.

“Because of the bad quality of water it offered, the French Suez Lyonnaise des Aux left us with a grave health problem,” said Ginés González García, Argentina’s health minister.

A report by the National Water Works Agency states that between December 1992, when privatization of the sector began and December 2005, shortly before it was returned to state hands, cases of child diarrhea increased by 75 percent and “cases of water-transmitted diseases increased at a worrying rate,” González García said (*LP*, May 17, 2006).

In 2001, the US-based company Azurix, an affiliate of the US giant Bechtel, was forced to abandon its concessions in the cities of Bahia Blanca and Santa Fe, after strong protests from the local population when water for consumption was found to contain fecal bacteria.

On last Sept. 2, 80 percent of the population of Cordoba voted in a referendum against the contract with Aguas Cordobesas Suez-Roggio, a Suez subsidiary, that has planned a 300 percent-increase in rates for next January. But the vote was non-binding, and did not obligate the provincial government to break the contract.

“Water wars”

In Cochabamba, Bolivia, massive street protests during the “water war” ended in 2000 with a contract cancellation for Aguas del Tunari, a Vivendi affiliate (*LP*, March 20, 2000). In 2005, it was residents in El Alto, a satellite city above the capital, La Paz, who kicked out Aguas del Illimani, a Suez affiliate (*LP*, March 9, 2005).

In Uruguay, while a privatization scheme was in its pilot stage, 65 percent of voters in an October 2004 plebiscite voted to kick Aguas de Barcelona, another Suez subsidiary, out of the country. As in Bolivia, the decision was based on complaints of high rates, poor quality water and shortcomings in the services.

Suez, under Aguas de Barcelona, was forced to leave Colombia in 2005 for “repeatedly” violating its contract af-

“Because of the bad quality of water it offered, the French Suez Lyonnaise des Aux left us with a grave health problem.”

— Ginés González García

ter it charged abusive rates during its 10 years of operations there, where it had increased its rates between 55 percent and 126 percent.

Bottled water

Nestlé and French company Danone already dominate the bottled water business in Mexico, Argentina, Brazil and Uruguay. Coca-Cola and PepsiCo. are also trying to get more access to the region’s water in order to dilute their beverage syrups — which would lower production costs

— and later get better footing on this industry that is led by European companies.

Close to 50 million liters of bottled water are sold in Mexico each day — the second highest rate in the world after the United States, according to the Beverage Marketing Corporation. Mexico has a little over 100 million people.

More than 18 billion liters of bottled water is consumed annually in Mexico, where 12 in each 100 inhabitants lack drinking water, and 15 of every 100 Mexicans lack plumbing. Nestlé Waters sells Santa María and Nestlé Pure Life bottled water here.

During the government of Vicente Fox (2000-2006) Mexico became an emblematic country for the water crisis. During his six-year term, Fox — the former president of Coca-Cola in Mexico — approved 44 concessions for exploitation of Mexico’s rivers and underground water resources, including in the Chiapas state, where Coca-Cola was given a spot where half of the country’s water recharges (in Huiztan and the base of the Hultepec hill), according to the Mexican Consumer Defense Association.

In Brazil, Nestlé is accused of extracting waters without authorization from the National Water Park in the southeastern Minas Gerais state. It is also accused of demineralizing the water — prohibited by Brazilian law — and constructing a water plant without conducting an environmental impact study (*LP*, Feb. 9, 2005).

The company sells Nestlé Pure Life, Eco de los Andes, Fresh Water and Glaciar in Argentina.

The increase in bottled water consumption is a result of the supposed safety for the users, according to private market studies. But the United Nations Food and Agriculture Organization says that water from the faucet, when it has been adequately treated, is “ideal for human consumption.”

Canadian researchers Maude Barlow and Tony Clarke presented a report at the IV World Water Forum in Mexico last year that analyzed 103 bottled water brands, and found that a third were contaminated with arsenic residues and fecal coliforms. One quarter of them were taken directly from the tap, they said, which is what Coca-Cola water was found to be in the United Kingdom in 2004. □

LATIN AMERICA

Alternatives to the bottled water

In 2006, bottled water sales worldwide totaled 164 billion liters, 7 percent of which was sold in Latin America, and half of that in Mexico.

One alternative to bottled water is solar water disinfection, a clean and cheap technology used to disinfect water in the home, created by Lebanese scientist Aftim Acra. The treatment consists of filling transparent plastic water bottles and leaving them out in the sun. The heat and ultraviolet rays disinfect the water in six hours of sunlight or two full days under cloud cover, after which the water is safe for consumption.

The SODIS Foundation, named after the initials for this technology and based in Cochabamba, Bolivia, is promoting this system also in Ecuador, El Salvador, Guatemala, Honduras, Nicaragua and Peru. —*LP*.



SODIS method in action in Bolivia.

EARTH CONSERVATION

CAFTA threatens to turn water into merchandise

Free trade agreement will make water distribution more unequal for country's poorest communities.

For large companies water is like a gift from the heavens, but for small-scale farmers, searching for this valuable and oft-wasted resource is an onerous task.

Even though some politicians, environmentalists and international bodies say that the time is now to fix Costa Rica's unequal and disorderly water distribution, the Free Trade Agreement between the United States and Central America and the Dominican Republic — which Costa Ricans approved in a referendum Oct. 7 (*LP*, Oct. 17, 2007) — has made this more unlikely than ever.

A congressional debate on the Water Resource Law has been stalled for five years and "it's now even more improbable that it will pass," says José María Villalta, a parliamentary advisor who hosts an environmental television show broadcast by the University of Costa Rica.

On transnationals' benefit

A major problem to fairer water distribution in Costa Rica is that CAFTA prohibits taxes on the exportation of water.

"Water is also sold as merchandise: bottled. This means that the country cannot prohibit or restrict its exportation by transnational companies," Villalta says.

The agreement will impede Costa Rica from giving priority to improving water access to local communities, small businesses or national cooperatives compared to US transnational companies, he added. On the contrary, the pact sets the obligation to give a "not less favorable" treatment to US companies, ignoring the deep differences in size and economic power of between these ones and the national sectors.

When the water law was debated in parliament, José Miguel Zeledón, director of the water department in the Environment and Energy Ministry under the previous administration, said that the current plan, from 1998, is "perverse" because it charges according to the size of the water consumption: the more you use, the less you pay.

While tourism companies that use large quantities of water for their pools or to water golf courses paid about US\$0.01 per cubic meter, a Costa Rican individual who uses water from a rural well — using a sliver of what tourism companies use — paid about \$0.19 per cubic meter.

Later, a decree was issued to change this price scheme but the changes are gradual and negotiated with the production sectors, explains Esteban Monge of the Center for Environmental and Natural Resource Law.

The Environment and Energy Ministry is currently in charge of managing the water resources, and institutions like the Costa Rican Electricity, Aqueducts and Sewage System Institute have some autonomy in granting concessions, but

"Your use of water is not going to be the same than that of a hotel with 500 rooms. The problem with water is not its scarcity, but instead, the resource's poor distribution."

— Vanessa Zamora

under CAFTA, state authorities will be potentially powerless before commercial priorities.

Villalta notes that CAFTA's method of handling disputes between the state and investors will give multinational companies the privilege to question decisions by national authorities before private international arbitration courts, when they feel that their investments have been affected.

Illogical situation

In Costa Rica, 82.8 percent of the population has access to drinking water, but only 2.5 percent of the waste waters are treated, according to the Human Development Report of the United Nations Development Program (UNDP).

Three-quarters of the country's

groundwater destined for human consumption are vulnerable to contamination.

A recent study by the National University found potentially carcinogens in the aquifers in the area of Barva, north of San José, which supplies more than 500,000 people. There are also major problems in the treatment of water for human consumption. According to a study by the state-run Aqueduct and Sewage System Institute in 2000, of the 2,033 aqueducts, 990 had water that was not safe for drinking. This issue affects particularly the fund-lacking Rural Water and Sewage System Associations.

Vanessa Zamora, an official of the UNDP's environment and energy department, said that there is a lack of care in water sources. "That's why we see in the newspapers on a daily basis that there is contamination, where anyone has direct access to dump chlorine, dead animals, etc.," she said.

She added that decreased public spending for water treatment and the abusively low rates charged to big hotel companies should be top issues for the government.

While the daily water consumption per person in Costa Rica is between 250 and 350 liters a day, tourists in the country consume between 400 and 800 liters a day. Even though water is vital for rural communities here, a large portion of the water is used by hotels to water their exclusive golf courses.

"They're producing community conflicts with this disassociation between the private tourism sector, the government and community. The rates that hotel companies pay are abusive. Your use of water is not going to be the same than that of a hotel with 500 rooms. The problem with water is not its scarcity, but instead, the resource's poor distribution," she said.

CAFTA was approved by just 30 percent of the electorate — passing with a victory of just 2 percentage points. Many analysts agree that the voter abstention rate of 41 percent was a resounding call against neoliberal policies in Costa Rica.

But because of what the outcome means, Villalta warns that it is not the time to "let one's guard down" in the defense of water. Costa Ricans should stand firm against the merchandising of the resource under the trade pact.

"The country should actively get involved in the "Keep Water out of the WTO" campaign. Founded in 2005, the campaign proposes taking water out of not only World Trade Organization's agreements and negotiations — included in the sections about services, market access agreements, cross-border services and investments — but all bilateral investment and trade agreements. □

PERU

Milagros Salazar in Lima

Water more valuable than gold

Mining companies and *campesino* communities face off for increasingly scarce resource.

"Before our struggle was for land, now it's for water," shouted *campesino* leader Félix Llanos during a road blockade in the northern Cajamarca department in Peru, home to Latin America's largest gold mine: Yanacocha.

This was in late August 2006. Residents of Combayo, a small farming village nearby, began protesting a new gold mining project at the heads of their rivers.

It was a symbolic case. A classic David-and-Goliath battle, in which a poor mass of *campesinos* took on the powerful transnational company, with all of the conditions for a water conflict: the scarcity of the resource, poor water management, the lack of an effective environmental authority, the weakness of social organizations and the violation of the population's human rights.

"Before there had been water in this basin," said the vice president of one of the grassroots development committees in the area, referring to the Maqui Maqui basin. This basin feeds the Chonta River basin, a key water source for Combayo. "Now, there's nothing."

"Early in the morning, the waters look cloudy," said *campesina* Reina Llanos, a sign of contamination for her.

The conflict in Combayo continues. Some sectors of the community complain that the government has not fulfilled the 11-point agreement it signed with the population and the company in negotiations in September 2006. One of those promises was a study on the safety of the local water sources.

According to the Ombudsman's Office, there were 89 cases of water contamination reported in the country in the first six months of this year, and of the 35 cases of social conflicts registered in June, 16 were linked to water and mining.

In Cajamarca, the most seriously conflicts in recent years have occurred over the protection of water sources in mining areas, which is what happened in Cerro Quilish, Combayo and La Zanja (LP, Oct. 18, 2006).

Five years ago, in the northern coastal department of Piura, the population

of Tambogrande kicked off Manhattan Sechura mining company from the land, where it wanted to drill for gold, so that their rivers, which feed their famed mango and lemon crops, would not be contaminated. Similar conflicts have sprung up in the area's highlands, where *campesinos* denounce the Rio Blanco project by the Majaz company will damage local rivers, medicinal lakes, flora and fauna (LP, Nov. 19, 2003 and LP, Oct. 3, 2007).

Both conflicts in Piura and Cajamarca have had fatalities, and according to governmental and nongovernmental organizations' reports, the population's fears are well founded.

Documenting the damage

In 2005, Eugenio Bellido, director of the Basic Sanitation department of the governmental Environmental Health Office, known by its Spanish initials DIGESA, revealed that 30.2 percent of the coastal rivers are contaminated by mines and garbage dumps of nearby populations. All these rivers rise in the Andes, where there are extractives industries.

In Yanacocha, joint property of the US company Newmont and the Peruvian company Buenaventura, the 2004-2005

"Mining has become a great competitor of a resource that is running out."

— José de Echave

report by the International Financial Corporation (IFC), a branch of the World Bank, said that the Chaquicocha basin is one of the four critical points of the Chonta River basin, a vital water source for Combayo.

In this basin, concentrations of aluminum, arsenic and lead are above international limits for drinking water for animals were found, according to the report.

In 2003, the Colombian company INGETEC conducted a study that found that "the geographical location of the mine, in particular, above various river basins ... constitutes a high risk potential" for the population.

That study, as well as another by the independent Stratus Consulting, states that Yanacocha has significantly decreased the quantity of water in these rivers.

Although the mining companies insist that the water volume they use to process minerals are insignificant if compared with the water required for agriculture, those quantities are not imperceptible either.

Between 1993 and 2004, Yanacocha processed 624.8 million metric tons of

minerals with approximately 125 million cubic meters of water, according to company figures.

This volume of water could supply a city of 6.5 million people for one year, at 50 liters per person, according to a study by the Group of Formation and Intervention for Sustainable Development, or Grufides, a Cajamarca-based NGO.

Like the mining companies, the government says that big mining does not contaminate water sources if it employs modern technology to protect the environment.

Peruvian nongovernmental organization Red Muqui, of which Grufides and other national and local institutions that defend populations affected by mining are members, says that all open-air mining that uses chemical processes such as lixiviation by cyanide as Yanacocha does is "highly contaminating."

"Mining affects water sources either because the water can be transferred from place to place to get the mineral out, which often can be found at the bottom of a lake, or because the water is diverted or used in the processing of the metal," warns Patricia Rojas, a Grufides member, who led an elaborate study on mining and water.

But not all studies can demonstrate the damages.

Invisible state

"There's no timely state intervention to establish the cause of the contamination. This creates a scenario of defenselessness for the population who feel threatened by the mine," said Alicia Abanto, a member of the Public Services and Environment commission of the Ombudsman's Office.

Since January of this year, mining regulation has been overseen by the state-run Supervisory Body of Energy and Mines Investment. But Abanto says this agency does not efficiently enforce its role as independent environmental authority, as it's been recommended in order that the state regain the communities' confidence.

The environmental studies commissioned by the government continue to be financed by the mining companies themselves as they were when environmental enforcement was in charge of the Ministry of Energy and Mines, which both promoted and supervised mining investment.

José de Echave, who heads the mining program at the nongovernmental organization CooperAcción, says that the lack of water is one of the greatest factors in these conflicts. "Mining has become a great competitor of a resource that is running out," he said.

Majaz is a prime example. The *campesino* leaders who opposed the mine feel that the project will turn their

Continued in page 10>

OFFICIAL WEB SITES

www.worldwatercouncil.org

World Water Council. International platform established in 1996 in response to increasing concern from the global community about water issues. Every three years, the Council organizes the World Water Forum, which will next be held in Istanbul in 2009 (www.worldwaterforum5.org).

www.unwater.org

UN-Water. Created in 2003, UN-Water is the official United Nations mechanism for follow-up of the water-related decisions reached at the 2002 World Summit on Sustainable Development and the Millennium Development Goals, particularly the goal to reduce the number of people lacking drinking water by half by 2015.

www.eclac.org/dnri

Division of Natural Resources and Infrastructure at the Economic Commission for Latin America and the Caribbean (ECLAC). Research on the contribution of natural resources and related services to development. Projects include conservation and sustainable use of fresh water, as well as sea water, private participation and regulation of public services based on natural resources, and international and regional law on natural resource management.

www.worldbank.org/lacwater

The World Bank Water and Sanitation Program (WSP) for Latin America. Finances projects to improve sustainable access to drinking water and sanitation through associations with governments, the private sector and community organizations. The program publishes the weekly newsletter *Aguilatina* (www.agualatina.net).

www.unesco.org/water

Water Portal of the United Nations Educational Scientific and Cultural Organization (UNESCO). An entry point to current UNESCO and UNESCO-led programs on fresh water and a platform for sharing and browsing Web sites of other water-related organizations, government bodies and nongovernmental organizations. Site has a series of useful links, events and news postings.

www.gwplforum.org

Global Water Partnership. Founded in 1996, this forum is based on promoting and implementing integrated water resources management through the development of a worldwide network that could pull together financial, technical, policy and human resources to address the critical issues of sustainable water management.

www.aderasa.org

Association of Water and Sanitation Regulatory Entities of the Americas (ADERASA). Members include Argentina, Bolivia, Colombia, Costa Rica, Chile, Nicaragua, Panama and Peru, and the Dominican Republic and Venezuela as observers. The ADERASA aims to provide information on the regulation and market controls on the water and sanitation market, and to promote development and sustainability of regulatory processes in the water and sanitation sector of member countries.

LATIN AMERICA/ Water, an urge



Threats to water resources

Urban expansion

Less than 13 percent of water waste received by cities is treated. The rest spills into the ocean, rivers, lakes, or is left to filter down into subterranean waters.

Contamination

Mining and metallurgic companies dump 13 trillion cubic meters of waste into bodies of water in Peru.

In greater São Paulo, Brazil, big industry dumps 300 metric tons of untreated waste daily into the Tiete River, which so contains now high concentrations of lead, cadmium and other heavy metals.

The developing **export-oriented agricultural industry**, such as the asparagus sector in Peru and soy in the Southern Cone, inefficiently employs large amounts of water with high volumes of chemicals that contaminate subsoil water reserves and rivers by leachate.

Deforestation

During the last five years, the forest cover in the region decreased by 4.5 million hectares a year, making Latin America and the Caribbean the region with the greatest deforestation rate in the world.

Infrastructure projects

The Initiative for the Integration of Regional Infrastructure in South America (IIRSA) includes the creation of waterways such as the Paraguay-Parana, that would involve the four main South American basins: the Orinoco, the Amazon, Paraguay-Parana and La Plata. These projects destroy water systems and biodiversity.

Glacier melt

In Chile, the Toro I, Toro II and Esperanza glaciers have decreased in area between 56 percent and 70 percent since the Canadian mining company Barrick Gold began its activities in the Huasco valley in 1985. This area, in the northern Atacama region, is where the company hopes to mine gold at the infamous Pascua Lama mine. The dark sediment that covers the remaining ice atop these mountains lowers their ability to deflect solar rays, heating the ice and melting it.

Source: Maps, VISIONES ALTERNATIVAS, OMAL; information, UNDP, UNEP, ECLAC, RIOS VIVOS, CPI, MAPUEXPRESS, LP

CARIBBEAN: Water: A human right under threat

- Latin America and the Caribbean are home to **30%** of the world's water.
- The Gulf of Mexico (A), South Atlantic (B) and Plata River (C) cover **25%** of the region, supply **40%** of the population, but comprise only **10%** of the region's water.
- Brazil (D) holds **13%** of the world's fresh water reserves, but the state of São Paulo, where **20%** of the national population lives, has just **2%** of the country's water reserves.
- 80 million people in the region ___ of the 570 million ___ lack access to drinking water and **51%** do not have sewage service.
- 43%** of Latin American children between up to the age of 5 have inadequate access to sanitation.
- 20%** of the poor households in El Salvador (E), Jamaica (F) and Nicaragua (G) spend on average more than **10%** of their earnings on water.
- Subterranean water extraction from the Guaraní aquifer — one of the three largest in the world between Argentina (H), Brazil (D), Paraguay (I) and Uruguay (J) is used **69%** for agriculture, **21%** for other industries and **10%** for domestic consumption.

Water movement

In reaction to the world water crisis, a campesinos, indigenous peoples, workers, consumers and a wide range of citizen's organizations have formed a broad movement to defend this critical resource. They work for four interrelated demands:

- 1. Water equality.** Water should be considered a universal human right and distributed equally, not according to market principles and buying power.
- 2. Water conservation.** Water should be conserved in their natural basins, avoiding the squandering of this resource, so that it is renewed in the hydrological cycle and secured for future generations.
- 3. Water quality.** This vital resource must be protected from contamination caused by chemical and industrial waste and residue.
- 4. Democracy of water.** Water should be protected and managed in through the public sector, with direct participation of the community on issues such as extraction, consumption and distribution.

Excerpt from "La furia del oro azul. El desafío ante la privatización de los sistemas de agua en Latinoamérica", by Tony Clarke and Maude Barlow, Serindi, 2004, authors of the best-selling Blue Gold: The Fight to Stop the Corporate Theft of the World's Water.

ALTERNATIVE WEB SITES

www.im.org

International Rivers Network. International network that works to protect rivers and defend the rights of communities that depend on them. IRN opposes destructive dams and the development model they advance, and encourages better ways of meeting people's needs for water and energy and protection from destructive floods and works with a network of local communities, social movements and nongovernmental organizations in Latin America.

www.redlar.org

Red Latinoamericana contra Represas y por los Ríos, sus Comunidades y el Agua (Latin American Network against Dams and for Rivers, their Communities and the Water). Joint initiative of Latin American organizations concerned about the wellbeing of their communities and their sovereignty over their waters. It runs campaigns on the effects of dams and proposes alternatives for communities to lobby for public energy policies in the region. (In Spanish only)

www.laredvida.org

Red VIDA. Organization founded in 2003 that defends water as a public good and a fundamental human right. Composed of consumer groups, women's organizations, labor unions, social, religious, indigenous organizations and other activists. The group is against the merchandising of water, denounces infringements on water access, and proposes social public and community control of water resources. (In Spanish only)

www.tragua.com

International Water Tribunal. The Latin American Water Tribunal, as it is known in English, is an international, independent tribunal created as a means to contribute to the solution of social conflicts over water in Latin America. The organization aims to preserve and guarantee water for consumption as a human right for future and current generations. Even though its rulings are non-binding, they are based on legal evidence. Its declarations and treaties on environmental protection are highly regarded in the international community.

www.agua.ecoportal.net

EcoPortal.net. Created in 2000 to provide educational information on the environment, it is the foremost Spanish-language portal on the environment and human rights with more than 250,000 unique visits a month. One of the main themes is water, and the organization warns about the risky scenario facing this resource. (In Spanish only)

www.tni.org

Transnational Institute. Founded in 1974, the Transnational Institute is an international network of activists and scholars committed to critical analyses of global problems with a view to providing intellectual support to those movements concerned to steer the world in a democratic, equitable and environmentally sustainable direction.

www.oikoumene.org

The Ecumenical Water Network was formed by Christian agencies and movements: to make a Christian witness heard in the present debate on water issues, to raise the awareness of the churches on the urgency of the concern, to engage as an ecumenical community in common action at all levels with the aim to promote the preservation, responsible management and the equitable distribution of water for all, based on the understanding that water is a fundamental human right.

>Continued from page 7

community into a mining district, because another subsidiary of the company has an additional, 15,000-hectare concession near the Blanco River.

Everything in that area is closely tied with Andean ecosystems, such as the moors, that allow for the collection, retention and distribution of water, as well as containing medicinal lakes and cloud forests that house animal species on the path to extinction.

Weak citizens' participation

The situation worsens, according to Red Muqui, because of the uneven coverage of water management institutions and the weak participation of the population during DIGESA's water monitoring.

Peru's Environment law states that local populations can only present reports of contamination or other kind of damage if they have been technically documented by an expert registered to the Ministry of Energy and Mines.

The obsolete Water law of 1969 also fails to offer any legal protection to users. Farmers' water commissions rarely know their rights that are outlined in the law such as the ability to deny mines use of their waters.

For anthropologist Armando Guevara Gil, coordinator in Peru of the Water Law and Indigenous Rights project, farmers' water organizations in the Andes are weak mainly due to geography: the area is many of a web of tiny basins and lots that impedes the centralized administration of water, unlike the coast.

For instance, a water committee of farmers in Santa Rosa de Ocopa, in the central highland Mantaro valley, has 250 members to irrigate just 120 hectares, and during the three- to four-month rainy season, the water committee declares the free use of water and takes a break. "The laws have to address the country's diversity," said Guevara.

"The cultural factor is another important element at the time a mining concession is granted. Some communities believe that the *paqarina*, the place where the people originated, is located in the water sources.

"And in that case the state has the obligation to respect the communities' beliefs. You can't negotiate. It would be as if the Catholics accepted that the Vatican be up for negotiation," added Guevara.

To prevent conflicts about water sources, the Ombudsman's Office proposes reforming environmental regulations to include the participation of the local populations and regional governments.

De Echave says that there should be a territorial ordering plan to establish zones that are off limits to mining in order to preserve water, which at a time of scarcity has become more valuable than gold. □

BRAZIL

José Pedro Martins in São Paulo

Water-rich country at risk

Population growth and contamination continue in the areas with the least water resources.

Piauí, one of the Brazilian states with the lowest social indicators, is also the most severely affected by the devastating drought in the country, above all in the northeastern region.

As of Oct. 5, 147 of the 223 municipalities in Piauí were in a state of emergency, because the drought was so concentrated in this region of Brazil. One of the effects of the drought has been that every year, between 20,000 and 30,000 residents in Piauí are obligated to leave the state to look for work and better adequate living conditions in other parts of the country.

Nevertheless, thousands of kilometers from Piauí, the situation is not much different. The state of São Paulo, the richest state of Brazil — home to 30 percent of the national wealth — has also suffered from a severe drought that in some regions totaled 70 rainless days by mid-October of this year.

One of the worst effects of the drought was that public water service was interrupted or under threat in various municipalities of the state in 2007, something that had already happened in previous years. The reservoirs of the Cantareira System, which provide water for half of the metropolitan region of São Paulo — 9 million of 18 million residents — and dozens of municipalities along the banks of the Piracicaba, Capivari and Jundiá rivers, in the interior of the state, the second richest region of Brazil, in mid-October were at only 30 percent of their capacities, when during the same period last year, they were at 45-percent capacity.

Scientists and nongovernmental organizations have no doubts that this severe drought is tied to global warming, a phenomenon that has worsened the water crisis and has ravaged Brazil, creating increasingly damaging scenarios in many parts of the country. Definitely, something is very wrong with water in this water-rich country.

Asymmetric distribution

Brazil has vast water resources — 12.5 percent of the world's fresh water. Also, Brazil is home to the most part of the Guarani Aquifer — shared with Argentina, Paraguay and Uruguay — one of the largest underground water reserves in the world.

But water is very poorly distributed in Brazil compared with the historic pattern of population's occupation. More than 80

percent of the country's water is in the Amazonian region, where only 10 percent of Brazilians live, close to 20 million people.

The state of São Paulo, however, where almost 20 percent of the population lives — 40 million people — is home to just 2 percent of the country's water.

Due to the fact that most of the population lives in large cities, mainly

"The Basins Committee is a sort of water parliament, a way to guarantee participation by society, without having one sector dominate over another. The government, companies, water users all have equal weight."

— Antônio Carlos de Mendes Thame

São Paulo and others in the south and southeastern parts of the country — as well as climatic factors, some parts of the country suffer from chronic water shortages and contamination, and the problem is only getting worse.

This situation has prompted important social movements to push for new legislation over Brazil's water supply management.

Unified movement

An important water defense movement began in the city of Piracicaba, in the interior of São Paulo. The Piracicaba

River, and its basin, cuts in the city in half. The population lives off of that river. Cultural and religious celebrations are centered around the river itself, such as the Festival of the Divine, a Catholic celebration.

In the late 1970s and early 1980s Piracicaba River suffered the worst period of contamination from industrial and urban waste along the riverbank in its documented history. The intense use of water and growing contamination caused the disappearance of some fish species from the river. The Piracicaba population reacted, and gave birth to one of the strongest water defense movements in Brazil.

Some members formed the Inter-Municipal Association of the Piracicaba and Capivari River Basins in 1989 to

promote decontamination and rational use and protection of these important waters. The movement was the beginning of a major discussion that led to a law on the water resources of the São Paulo state.

"Piracicaba and the region's participation was fundamental to the promotion of the law and the national debate on the need to protect our waters," said director of the National Waters Association, José Machado, who had also served as mayor of Piracicaba and was one of the creators of the consortium.

Citizen's participation

The debate over water legislation intensified during the 1990s on a national level. The United Nations Confer-

ence on Environment and Development, known as the Earth Summit, was held in Rio de Janeiro in June 1992. In 1991, in São Paulo, the state law on water resources took effect.

Another law outlining the National Water Resource Policy took effect in 1997. This law established important changes to water management in Brazil in order to protect waters and prevent the crisis from getting any worse. In fact, the main objective of the national policy in the Water Law is "to ensure that current and future generations have the necessary water availability with quality patterns appropriate for each type of use."

Another new element is the guarantee of broad participation by society in the decision-making processes about

BRAZIL

River divides nation

Project to transpose the waters of the São Francisco River faces strong resistance.

One major conflict in water-rich Brazil is a controversial plan to transpose the waters of the important São Francisco River.

In October 2007, Brazil's Superior Court of Justice began hearing the legality of the project, a process that was stalled under an earlier decision by a lower court.

"The federal government's determination to make this project a reality comes from the certainty that the project will generate wealth for the northeast [region of the country], decrease regional inequalities and help Brazil to be a better, most just and more productive country," National Integration Minister Geddel Vieira Lima told the local press.

The main argument is the historic lack of water that affects the northeast — home to 28 percent of the Brazilian population and 3 percent of the water. The project is valued at US\$2.9 billion, which will be invested by the Growth Acceleration Program, which was launched in January by President Luiz Inácio Lula da Silva (*LP, Feb. 21, 2007*).

The project proposes transposing water from the São Francisco River Basin and transferring it to the Ceará, Rio Grande do Norte, Pernambuco y Paraíba states — all of them northeastern states.

The São Francisco River is called the "river of national unity" because its basin crosses seven Brazilian states: Minas Gerais, Bahia, Sergipe, Alagoas, Pernambuco and part of Goiás and the Federal District (*LP, May 3, 2006*).

But growing discord over project threatens to give the 2,700-kilometer (1,690-mile) river the nickname "river of disunity."

In October 2005, Mons. Luiz Flávio Cappio, bishop of Barra, Bahia went on an 11-day hunger strike against the project.

In February of this year, he sent a letter to the president asking him to reopen a dialogue on the project as the government appeared poised to break ground on the project immediately. He also launched a campaign in defense of the São Francisco River and northeastern region.

Sectors of the Catholic Church and some religious organizations believe that the project will worsen the social situation of groups living along the banks of the São Francisco, such as indigenous peoples and Afro-Brazilian communities in the rural areas. These sectors worry that the waters will be transported through the proposed network of 700 kilometers (440 miles) of canals, only to irrigate large agro-export plantations, which will benefit only a minority of the population, while putting people at risk in the areas where the waters will be transferred from.

Between Oct. 4-7 of last year, more than 500 representatives of river bank communities, indigenous groups, environmentalists and nongovernmental organizations camped out in protest in Cabrobo in Pernambuco. Participants decided to go to the capital, Brasília, to march against the river's diversion in March of this year, and planned more marches in the coming months in the capital and other parts of Brazil.

The river water transfer project has also raised eyebrows in the scientific community. Respected Brazilian geographer Aziz Ab'Saber is highly critical of the plan, warning that the waters could

evaporate while in transit, before ever reaching their final destinations. It would also require large amounts of electricity, as the São Francisco powers numerous hydroelectric plants.

"The federal government should pay a lot of attention on the São Francisco river populations, a river that before anything need to be revitalized," he said.

Ab'Saber says that the São Francisco must be revitalized through the decontamination of its waters — whose quality has been endangered by industrial and urban waste — irrigation projects for the benefit of local communities, the total protection of indigenous peoples' rights living along the banks. —J.P.M.



Fish killed by pollution wash up on the banks of the São Francisco River.

ARGENTINA/CHILE

Hernán Scandizzo in Llanada Grande

Dams spark resistance on both sides of the border

Hydroelectric plants would damage natural water flows in pristine south.

Llanada Grande is located in a bucolic spot deep in the Chilean south, near Cochamó, 200 kilometers south of Puerto Montt, and 1,200 kilometers south of Santiago. This small village, like others in the foothills of the Andes, has a historical relationship with Argentina across the border for



HERNÁN SCANDIZZO

Llanada Grande, future home to the El Portón dam.

family and economic relations. Now, communities on both sides of the border are standing up to the El Portón hydroelectric plant planned on the Puelo River.

These lands at the 42nd parallel have a microclimate that allows crops to grow — conditions that are not found wholly adverse in other parts of the southern Region X — such as fine fruit,

>Continued from page 11

water, through citizens' committees. This decentralized approach considers water basins as specific manageable units. The future of the waters in each basin is defined through this Basin's Committee.

"The Basins Committee is a sort of water parliament, a way to guarantee participation by society, without having one sector dominate over another. The government, companies, water users all have equal weight," said federal Dep. Antônio Carlos de Mendes Thame, of the Brazilian Social Democratic party, and the first president of the basin committee in the state of São Paulo, in charge of the Piracicaba, Capivari and Jundiá river basins. This committee was founded in 1993 and its inauguration was marked with a call to defend water resources.

A step forward in the management of water resources in Brazil was the creation in 2000 of the National Waters Association, which is responsible for the regular use of national waters. These are the waters related to the rivers that cross two or more Brazilian states. Other states also began to charge for the use of water under the legislation as a way to guarantee rational water use and avoiding squandering. The Association is pushing for the treatment of urban waste, one of the principal causes of water contamination in Brazil. Less

"No human being can have the power to deprive any human being of this good that is essential for life."

— Pastoral Land Commission

than 40 percent of the waste water in cities here is treated before being dumped in rivers.

Church in defense of water

But the protection of water in Brazil has not only advanced in legal and managerial terms. The social conscience has advanced greatly and the Catholic Church has contributed as well.

The Pastoral Land Commission, which is dedicated to land reform and social justice in rural Brazil, has pushed for the guarantee of high-quality water for all Brazilians.

Water has become a major part of its campaigns for the last eight years. In 2001, in the First Pastoral Land Commission Congress, the final document states: "Water, a natural and

inalienable right. Being that water is a constituent part of the human being, of life as a whole and of the entire environment, it is a natural right, patrimony of humanity, divinely granted — not a human work. So it cannot be reduced to merchandise or a personal good. And no human being can have the power to deprive any human being of this good that is essential for life."

In the Pastoral Land Commission's annual report on rural conflict that documents murders, evictions, and other violence, water conflicts are now included. Last year's report said that 36 percent of the conflicts registered were associated with dams and hydroelectric plans, and 49 percent were related to contamination or the destruction of bodies of water. The states with the highest number of conflicts are Paraná (6), Minas Gerais (5) and Mato Grosso do Sul and Tocantins (4 a piece). The commission identified conflicts in 20 of the 23 Brazilian states.

In 2004, the Church launched the Fraternity Campaign of "Water: Source of Life." Various levels of the Catholic Church hierarchy and Catholic communities throughout Brazil took time to discuss the issue, to bring to light the need to preserve water, which is ever more scarce and inaccessible for a good part of the Brazilian population. This year's campaign focused on the Amazon (LP, March 21, 2007). □

as well as and beekeeping. The pristine rivers, lakes and forests here have also turned the area into a major tourist destination.

As of now, the residents of the Puelo River basin have received no information from the company heading the project, Endesa Chile — an affiliate of the Spanish company of the same name — and only have figures from a study conducted by the nongovernmental organization Geoaustral of Puerto Montt. According to the report, the dam's construction would flood 5,000 hectares and displace at least 80 families.

Organized resistance

In February, the residents here began to meet and in September formed the Citizens' Committee of the Puelo Basin. They say that the dam would change the climate and contaminate the waters with the putrefaction of the eventually submerged forest and the new river flow, which will be regulated

which occur every 4 to 5 years, the lake will rise up to 7 meters, it will merge with the Puelo Lake and the Inferior Lake [in Chile] and the Puelo River. We're talking about a lot of water. If there is a dyke, I don't know if it could let the water through fast enough and even if it does, there could also be problems on the other side of the dyke."

"When they have to open the doors there are big floods. Last year in the town of Hualqui [in the VIII Region] there was a flood that covered more than 2,000 houses, something that has never happened before. In the summer, the Bio Bio River [where the Endesa-constructed Pangué and Ralco hydroelectric plants are located] there's almost no water, they're pure beaches, the river's entire life was lost and that's what's going to happen with the Puelo," warned Pedro Soto Oyarzo, president of the Neighborhood Organization of the Puelo River, a neighboring village of Llana da Grande.

"The Puelo feeds the Reloncaví estuary, it brings oxygen to the sea water and takes out a little of its salinity. That's how the companies that are there with their salmon and mussel crops can survive. Once this oxygen is stopped, the estuary's life ends. So, it's a rather serious problem. It will cause unemployment in addition," said Marcial Aguirre, a resident in nearby Puerto Varas.

But some farmers impoverished because of low production believe that this project will change their fate, not because it will directly improve the economy, but because it will allow them to look for work in other sectors.

"If they build the dam and they pay me well, I have no problem in selling. I was born here and I was brought up working brutally. This winter, 32 sheep died on me and there is no money coming in. What you plant here, that's what you live on. There's some seasonal work, but it's not enough to

live on more or less," said Toribio Ortega, whose property is near the proposed dam site.

Energy crisis

"We have an urgent need as a country, which is to ensure an electricity supply, and in this sense, what we're doing is advancing the proceedings, not only environmental ones but also in other areas," said Minister of Energy and Mines Karen Poniachik, to the Santiago *Diario Financiero* in September 2006.

She added that the government would not lower environmental requirements, however.

The sector most endangered by the crisis is mining, according to the National Statistics Institute, which says that it consumes 40 percent of the country's electricity. The state-run National Copper Corporation, CODELCO — a pillar of public financing — uses approximately 15 percent of the country's electricity and predicts it will double that in 9 years. Hydroelectric plants generate about 70 percent of the national energy supply.

El Portón, which would generate 320 megawatts, is only one of seven plants that Endesa Chile would build in the southern part of the country, four of them in partnership with the local company Matte. According to the Jóvenes Tehuelches group of the Chilean town of Aysén, a total of 22 dams are currently being proposed in the southern region by different companies.

Mapuche and *campesino* communities, as well as protected natural areas, will be affected by flooding or electricity grids. These natural areas cross over into Argentine territory, and comprise the greatest cold-weather biodiversity in the world.

The Mapuche say that the dams do not only end with the *newen*, or force in Mapuche, of the rivers and lakes, but also of plants and animals as the equilibrium between different elements of nature, among them man, or *che*, will be broken.

According to the country's Water Code, which was written in 1981 during the dictatorship of Augusto Pinochet (1973-90), the state could cede "rights to water usage" to private companies, which that way acquire wide powers to exploit the economic potential of Chile's rivers and lakes. Endesa Chile has rights to approximately 80 percent of the country's waters and controls 13 hydroelectric plants.

Soggy paper

In August 1991 Argentina and Chile signed a protocol on shared water resources that regulates the use of common basins and promotes environmental protection. But Argentines living in the Puelo basin do not believe that the agreement is enough to stop the dam's construction because authorities in their own country are proposing six hydroelectric plants along another shared river: the Carrenleufu-Corcovado, 280 kilometers south of El Bolson.

It is here that the La Elena power project will alleviate the energy needs of the Aluminum producer Aluar SA, located in the Argentine city of Puerto Madryn, in the Atlantic coast, and future mining projects in the southern Chubut province. □



Mountain section of Bio Bio River.

"The lake that is going to form with the dam is going to affect the entire Puelo River and can also affect the Puelo Lake."

— Kent Schoenawer

by the company's energy needs. This will affect the entire water system of the area, which begins in the El Bolsón village and Los Alerces National Park, in Argentina, up to Chile's Reloncaví estuary.

"The lake that is going to form with the dam is going to affect the entire Puelo River and can also affect the Puelo Lake," which is located in Argentina, said Kent Schoenawer, a tour operator from Argentina. "When there are very big surges,

People power against the Plan Puebla Panama

Communities vote down environmentally unfriendly water projects.

For indigenous people, water is life. Guatemalan Mayan leader Daniel Matul explains the importance of water for the indigenous people of Mesoamerica: "Water is the basis of our material and spiritual existence. According to Mayan philosophy, men and women come from water, so it is a source of life."

But water has become an issue of global concern and is inextricably bound to social control and power relations.

The Mesoamerican region, which encompasses south-central Mexico and extends southeastwards to include the Yucatán peninsula, Guatemala, Belize, El Salvador, and the Pacific coast of Honduras, Nicaragua and Costa Rica down to the Gulf of Nicoya, is exceptionally rich in biodiversity and natural resources, including rivers, streams and other water sources.

Plan Puebla Panama (PPP), an ambitious plan to integrate the region's infrastructure, includes the promotion of hydroelectric dams (*LP*, Nov. 29, 2006), purportedly to reduce the region's dependence on fossil fuel. However, local civil society organizations have strongly condemned the PPP as a mechanism for powerful economic interests (tied to Central American business-led governments) to exploit the region's highly lucrative resources with scant regard for the basic needs of local communities.

Attracting investment

According to researcher Giancarlo Delgado Ramos, of the Autonomous Metropolitan University of Azcapotzalco, Mexico, hydroelectric projects are a key component of the PPP and have been misleadingly marketed as clean and environmentally friendly in order to attract investment from international organizations.

Delgado Ramos explains that far from being environmentally friendly, hydroelectric dams contribute significantly to global warming as they flood vast areas of woodland in which decomposing vegetation and other organic matter produces huge amounts of carbon dioxide and methane.

The researcher argues that "these movements of water could produce a regional climate change which would alter hydrologic ecosystems, with a huge impact on the distribution of water basins, displacing aquifers and turning some areas into deserts while flooding others."

Local communities throughout the region have already felt the impact of hydroelectric dams. In the state of Guerrero, in southern Mexico, *campesino* organizations have fought tooth and nail against the construction of La Parota hydroelectric dam on the Papagayo River.

In mid-2003, the state-owned Federal Electrical Commission authorized the construction of hydro-

"These movements of water could produce a regional climate change which would alter hydrologic ecosystems, with a huge impact on the distribution of water basins, displacing aquifers and turning some areas into deserts while flooding others."

— Giancarlo Delgado Ramos

electric dam without the mandatory environmental impact studies and without consulting the local *campesino* population.

Had La Parota gone ahead, the dam would have flooded over 17,000 hectares of land, leading to the dis-

placement of over 25,000 *campesinos* in the municipalities of Acapulco, San Marcos, Juan R. Escudero, Tecoanapa and Chilpancingo, whose lands would be forcefully expropriated by the state.

In 2003, the *campesino* communities of Guerrero formed the Council of Ejidos —communal or cooperative farming — and Communities Opposed to La Parota, known by its Spanish initials CECOP. On March 14, 2006, CECOP issued a press release stating that the CFE had acted illegally by calling *campesino* assemblies to vote on whether the dam project should go ahead, when according to Mexican agrarian law, such community consultations can only be called by *campesino* leaders, not state actors.

Excessive force

According to CECOP, those who opposed the construction of the dam, were forcefully barred from attending the event by army soldiers stationed in the area. On March 16, some 300 *campesinos* held a peaceful demonstration outside the CFE headquarters in Mexico City, calling for La Parota to be scrapped.

Four days later, the case was heard by the Latin American Water Tribunal, which ruled in favor of the *campesino* communities and stated that the construction of the dam should be halted immediately as the project "would not bring any demonstrable benefits for the local population, or contribute to regional development or to the protection of the environment and natural resources." The project was shelved due to the popular discontent.

This victory has inspired other civil society organizations in the region that have also resisted the imposition of hydroelectric projects that pose a grave threat to the environment. In Guatemala, the Mayan Mam communities of Tajumulco, in the Northern department of San Marcos, near the Mexican border, have opposed the Tres Ríos hydroelectric project which envisages the construction of three electric generators on the Canuja, Negro de San Pablo and Cutzulchima rivers.

Indigenous communities and environmental organizations oppose the project on the grounds that only one environmental impact study has been carried out (when in fact three studies are required, one for every river) and that the local population has not been consulted.

On Nov. 27, 2006, the Community Development Councils of Tajumulco organized a community consultation (a traditional community plebiscite in which people vote through a show of hands) — 192,000 Mayan *campesinos* unanimously rejected the project.

In a similar vote in April 2006 in the municipality of Ixcán, in the highland department of Quiché, where 18,000 Mayan K'eqchi' *campesinos* unanimously rejected the Xalala hydroelectric project (*LP*, June 15, 2005), fearing that the dam will cause an ecological disaster and will flood their small-holdings.

According to the Guatemalan Municipal Code and International Labor Organization Convention 169, indigenous people have the right to a say on any issues affecting their welfare and that traditional forms of organization and decision-making must be respected. However, in May this year, Guatemala's Constitutional Court ruled that community consultations were "non-binding," which has been used by the government as an excuse to ignore communities that oppose mining or hydroelectric projects.

On Oct. 11, the Constitutional Court authorized the construction of the hotly contested Hondo River dam in the Zacapa department. In 2005, residents voted against the project in a popular consultation (*LP*, Sept. 8, 2004 and July 27, 2005). The dam is expected to be operational in 2010.

Other areas respond

Similar projects have been rejected throughout the Mesoamerican region. In April 2005, the communities surrounding the Pacuare River in South-eastern Costa Rica, rejected the construction of a hydroelectric dam which was deemed to be environmentally unsafe and in Panama, civil society organizations have voiced concern over government plans to build nine hydroelectric dams in an attempt to reduce the country's energy bill.

Communities across the region are increasingly calling for new, more environmentally friendly development in tune with local needs. In the village of Uspantan, in the highland department of Quiché, in Guatemala, the 31 de Mayo cooperative was set up after the 1996 Peace Accords, with support from the Spanish government and the Solar Foundation, a nongovernmental organization, to provide electric energy for 500 families.

Small-scale community hydroelectric projects are still rare in the Mesoamerican region but have already met with great success in other countries such as Cuba, which has 175 small dams which benefit an average of 400 families each (*LP*, June 28, 2006). As CECOP leader Rodolfo Chávez Galindo, said after La Parota was deemed unsafe by the Latin American Water Tribunal: "There can be no development if it only benefits transnational corporations. There can be no true development if there are no benefits for the people." □



MARÍA LOURDES ARCE ARGUEDAS

Rural Salvadoran women travel long distances to retrieve water.

EL SALVADOR

María Lourdes Arce Arguedas in San Salvador

For a blue democracy

Nearly 130 civil organizations organize to make water a human right.

Gloria Marina must walk 2 kilometers twice a day just to supply her family with water. "We got to the river to get it because we don't have any" here, she says. But for drinking water, Marina has to pay US\$1 per container from trucks.

The 2006 United Nations Development Program study "Water, an Economic Valorization of El Salvador's Water Resources" says that even though the country has above-average water resources to supply the population and satisfy industrial and agricultural needs, the distribution of the resource is poor, a factor that has become a top cause of the country's hindered economic and social development.

Ángel Ibarra of the Salvadoran Ecological Unit says that El Salvador and Haiti have the worst environmental sanitation in the region and have the poorest water coverage.

"The ones who suffer from this problem are the poor and rural women and children," he said.

Decentralization or privatization?

On July 2 in the city of Suchitoto,

30 minutes from San Salvador, President Elías Antonio Saca unveiled the National Water Decentralization Plan.

For many the word decentralization is just a disguise for the government's intention to privatize water in the country's rural areas, which would make the country's water access problems worse. According to 2006 figures from the National Aqueduct and Sewage System Administration, known for its Spanish acronym ANDA, 57 percent of the population is connected to the water grid, 35 percent has sewage service and 40 percent has latrine pits.

For the left-wing Farabundo Martí National Liberation Front (FMLN), the president's decentralization policy to delegate water management to mayoral offices around the country is only asking for the sector's privatization because local governments cannot afford to manage such an expensive sector alone.

"The only thing they'll do is give them the responsibility without any money," said FMLN Dep. Irma Lourdes Palacios, a member of the congressional commission on health, the environment and natural resources. "This policy goes against all logic for the access and availability of water."

Studies by the Association of Women for Dignity and Life — a feminist or-

ganization known in Spanish as Las Dignas — in communities in the Usulután department, where ANDA is heavily promoting new decentralized water service plans, have found that the rates are much higher than before.

"The drinking water service available to communities has not improved, neither with more installations nor with better rates," said Zenaida Joaquín, a member of Las Dignas.

This government water program, which was financed in part by the Inter-American Development Bank, has been unsuccessful because it has been unable to improve water service or water quality, which must be overseen by the Health Ministry.

"This water isn't suitable for human consumption," said Edwin Trejo, coordinator of the Human Right of Water Project of the country's Consumer Defense Center.

On the other hand, there is a political management of water rates that benefits members of the ruling Republican Nationalist Alliance, or Arena.

"According to (water) users reports, this has occurred in Tecapán", said Trejo.

Protests with proposals

Organizations say that the Salvadoran government fails to fulfill its responsibility to provide water because the lack of a legal framework and institutions to efficiently regulate water management.

This issue has led organizations such as Caritas El Salvador, the Lutheran Church, The National Water Forum, the Prudencia Ayala Feminist Coalition and Mesoamerican Women's Resistance, among others, to launch the campaign "Blue Democracy."

"The issue that brings all of us together is water. We're trying to improve water quality and make sure it is not privatized," says Zuleima Funes, a representative of the National Water Forum.

The government policy to pass water management to the mayoral offices does not guarantee these officials the technological capacity or financing. These mayors already have little resources, so this policy will force them to turn to private companies for funds.

"What [this policy] hides is the transfer to private investors. The mayors are open to taking on the responsibility, but conditions need to be established first," said Trejo.

Civil organizations have already presented the Legislative Assembly two water law proposals. In March 2006, they presented a bill that seeks to reorganize the country's water resources and regulate the sector.

A year later, the Citizens' Proposal for the Subsector of Drinking and Sewage Water was presented, which sug-

"The issue that brings all of us together is water. We're trying to improve water quality and make sure it is not privatized."

— Zuleima Funes

gests ruling out all privatization in the sector, guaranteeing community, municipal and state water provision, as well as a protection for drinking water consumers.

"There is a serious problem of violating the human right to water in this country," says Armando Flores of the Consumer Defense Center. "There are more than 130 social organizations seeking that water be recognized as a human right and against the privatization of this service."

Meanwhile, lawmakers of the ruling Arena party have yet to address the water law proposals.

"They're not going to debate the Water Law. It's urgent that these laws be

debated and this call is directed toward the deputies of the right. Those who have held up the law in the presidential palace" are part of the National Private Business Association, or ANEP, "because of the economic interests that legislating for the people means," Palacios said.

While the bills have not been addressed, women and children of rural El Salvador continue their struggle of finding water on a daily basis. One of those women Teresa de Jesús Rivas, of the Río los Bueyes community in Berlin, Usulután does exactly that.

"We have made a well, but it cost a lot. Everyone else goes to the river that's nearby, but there's no drinking water. Those waters are contaminated because there are latrines in the ground and that contaminates the water. A geothermal company also came to Berlin [and] everything is contaminated. There are a lot of illnesses because of water like that." □

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